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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,800	05/28/2004	Randolph J. Sheffield	68.0477	3799

35204 7590 03/16/2006

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EXAMINER

BOMAR, THOMAS S

ART UNIT PAPER NUMBER

3672

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,800

Applicant(s)

SHEFFIELD, RANDOLPH J.

Examiner

Shane Bomar

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/19/05, 5/28/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in paragraphs 0014 and 0015 of the Brief Description of the drawings, Figs. 13 and 14 are said to be side and top views of the tool of Figs. 10-12, although the specification says that these are drawings of a plug 225, not the tool itself; in paragraph 0045, the reference to Fig. 13 should most likely be Fig. 15.

Appropriate correction is required.

Claim Objections

2. Claim 19 is objected to because of the following informalities: the recitation of "said another circuit" lacks antecedent basis and should most likely be --said another apparatus--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,584,406 to Harmon et al in view of US patent 5,829,538 to Wesson et al.

Regarding claims 1-6, 8, 14-19, and 27-31, Harmon et al teach a method, system, and tool for communicating a wireless stimulus such as a seismic wave from the surface to a tubing conveyed perforating gun to fire the gun (see col. 2, lines 32-36), and for communicating a signal back to the surface indicative of the firing of the perforating gun (see Figs. 1-3 and col. 3, lines 12-36). Although it is taught that the tubing conveyed perforating gun is to be a permanent part of the completed well, it is not explicitly taught that the perforating gun is a casing conveyed gun.

Wesson et al teach a perforating gun similar to that of Harmon et al, wherein it is further taught that the gun can be conveyed on either tubing or casing (see col. 1, lines 60-65). It would have been obvious to one of ordinary skill in the art, having the teachings of Harmon et al and Wesson et al before him at the time the invention was made, to modify the perforating gun taught by Harmon et al to include the casing conveyed capability of Wesson et al, in order to obtain a perforating gun that can be used in multiple situations. One would have been motivated to make such a combination since Wesson et al have shown it to be notoriously known in the perforating art that perforating guns can be conveyed on either casing or tubing without significant changes to the structure of the gun or the method of its use.

Regarding claims 7 and 20, the transmission of electromagnetic waves from the surface to a tool through the earth is taught as being notoriously known in the art (see col. 1, lines 36-50 of Harmon et al).

Regarding claims 9, 10, 22, and 23, an acoustic wave is also transmitted downhole (see col. 12, lines 21-26 of Harmon et al).

Regarding claims 11, 12, 24, and 25, pressure pulses are transmitted downhole through the fluid at least in the annulus (see col. 7, lines 1-9 of Harmon et al).

Regarding claims 13 and 26, the stimulus is encoded to indicate a command and the stimulus is then decoded to extract the command (see col. 19, lines 60-65 of Harmon et al).

Conclusion

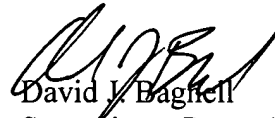
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bell et al disclose a method and tool for wirelessly detonating a perforating gun using electromagnetic, acoustic, or seismic waves (see col. 6, lines 3-20 and col. 10, lines 4-11). Cernocky et al also disclose a method and tool for wirelessly detonating a perforating gun including encoding and decoding command signals (see at least claim 1). Lerche et al and Snider also teach other methods for perforating of particular interest.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 571-272-7026. The examiner can normally be reached on Monday - Thursday from 6:30am to 4:00pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David J. Baghell
Supervisory Patent Examiner
Art Unit 3672

tsb 
March 14, 2006